XL.—*Notes on the Classification of the Coleopterous Family* Rutelidæ. By Gilbert J. Arrow, F.E.S.

The following notes upon points which have arisen in the course of work upon the collection of Rutelidæ in the British Museum will, I hope, contribute something to the more perfect classification of that beautiful and interesting group of beetles.

The mass of species forming the Central and South-American group of the Antichirides is in much need of generic arrangement. Insects of very diverse characters have been assigned to the genera *Antichira* and *Chlorota*; and although various new genera have been formed from these assemblages, the species have not yet been tabulated, and those remaining in the older groups are little less heterogeneous than before.

A genus *Ptenomela* was described by Bates for the reception of "a considerable number of species which differ constantly from *Antichira* in the form of the mandibles (unarmed externally), from *Thyridium* in the size and shape of the scutellum, which is one fourth the length of the elytra and triangular, with flexuous sides, and from *Chlorota* in the well-developed mesosternal process." The only species mentioned by the author is *gratiosa*, Sharp. With this the following insects are congeneric:—

P. (Thyridium) sodalis, *Waterh.*
P. (Chlorota) euchloroides, *Murr.*
P. (Antichira) psittacina, *Burm.*
P. (Dorystethus) glauca, *Bl.*
P. (Thyridium) Blanchardi, *Kirsch.*
P. (Thyridium) scutellata, *Waterh.*
P. (Thyridium) punctata, *Waterh.*
P. (Antichira) generosa, *Waterh.*

Two insects at present left in the genus *Antichira*, viz. *A. puberula* and *A. pilosula* of Waterhouse, should be transferred to *Thyridium*, which is distinguished by the small heart-shaped scutellum, concave on its front margin, into which a rounded lobe from the hinder edge of the pronotum fits.

Antichira sulcipennis, Waterh., has some resemblance to a *Thyridium*, but differs conspicuously, and a new genus must be found for it. The type is the only specimen of this genus known to me. It is a highly peculiar insect with strongly sulcate elytra, very small scutellum, scarcely longer than it is broad, and the prothorax sharply angulated at the sides and without a lateral border. In the last character it differs from every other known member of the present group. The generic diagnosis is as follows:—

ACRASPEDON, gen. nov.

Corpus elongatum. Processus mesosternalis elongatus, apice recte truncatus. Mandibulæ extus bidentatæ. Pronotum lateribus immarginatum, angulatum, angulis fere rectis, margine postico lobatum, lobo truncato. Scutellum parvum, lateribus curvilineatis, quam latum vix longius. Elytra profunde sulcata.

Type: *Acraspedon* (*Antichira*) *sulcipennis*, Waterh., Trans. Ent. Soc. Lond. 1881, p. 543.

Burmeister's Section II. A of the genus *Chlorota* is at present in a very disorganized condition. Lacordaire placed its original members in the now restricted *Antichira*, but related forms have since been described under both names. They make a very heterogeneous collection, agreeing in little but the deeply striate elytra. The insects in question are *C. smaragdula*, *chalconota*, *metallica*, and *costata* of Burmeister, *C. Belti*, Bates, *C. associata*, Waterhouse, *Antichira pretiosa*, De Brême, and *A. crassa*, Ohaus. Of these the first has rightly been transferred to *Antichira*, being closely allied to *A. virens*, Drury, the typical species according to Dr. Ohaus's reconstitution of the genus. *Chlorota associata*, Waterh., is more closely related to *Antichira pretiosa*, De Br., than to any of the insects with which it has hitherto been grouped, and these two may conveniently be formed into a new genus, distinguished chiefly by the structure of the claws and the shape and size of the scutellum.

ÆQUATORIA, gen. nov.

Corpus subhemisphæricum. Clypeus productus. Scutellum magnum, elongatum, margine anteriore subtiliter convexum. Pronotum postice haud lobatum.
Feminæ tarsorum mediorum et posticorum ungues simplices.
Mas incognitus.

Type: *Æquatoria* (*Chlorota*) *associata*, Waterh., Trans. Ent. Soc. Lond. 1881, p. 552.

Dr. Ohaus has already pointed out the chief characters of the group formed by *Belti*, Bates, *costata*, Burm., and *crassa*, Ohaus, but without proposing a common designation. These insects differ from *Antichira* in the form of the mandibles and the scutellum, and from *Chlorota* in addition by the long sternal process.

HYPASPIDIUS, gen. nov.

Corpus latum, subdepressum. Mandibulæ extus leviter sinuatæ, apice subacuminatæ. Prothoracis margo posticus rotundato-lobatus. Scutellum magnum, subæquilaterale, lateribus non bisinuatis. Processus mesosternalis longus, curvatus, non clavatus. Ungues, ♂ pedum anteriorum interni divisi, ♀ pedum omnium unus divisus.

Type: *Hypaspidius* (*Chlorota*) *Belti*, Bates, Biol. Centr.-Amer., Col. vol. ii. (2) p. 270.

The remaining two insects, although at present catalogued as *Antichiræ*, exhibit no common point of difference from *Chlorota* except the striation of the elytra, which, however, occurs sexually in some of the species, and it seems better to retain them in the latter genus at the expense of superficial uniformity than to form new ones without adequate structural characters. The second of these insects, *C. metallica*, Burm., I believe to be the same as *C. viridana*, Har.

Chlorota flavicollis, Bates, is merely a pale variety, in which the dark centre of the prothorax has almost or entirely disappeared, of *C. cincticollis*, Blanch. The specimens are evidently imperfectly coloured, the elytra also being lighter than in normal individuals. The variety is not even local, for a Mexican specimen in the British Museum has the thorax entirely pale, and the specimens referred to *C. cincticollis* by Bates show considerable differences in the quantity of dark pigment present.

Dr. Ohaus's subdivision of *Antichira*, based upon his discovery of a stridulating apparatus, by virtue of which he relegates most of the species to the revived genus *Macraspis*, is an admirable one. He has not, however, fully described the structure which so sharply separates this genus from the rest of the Rutelidæ. The essential part of the apparatus, which Dr. Ohaus has not noticed, is a finely striated area similar to that found in all other stridulating Coleoptera, but in a position hitherto unknown. It consists of a ridge upon the inner face of the posterior femur near the knee and running parallel to the upper edge. Under a lens this ridge is seen to be transversely striated, forming a file which, by a movement of the leg against the body, is drawn across the oblique ridges upon the sides of the abdomen, producing the sound heard by Dr. Ohaus. These structures are invariably found together, and the presence of parallel oblique bars upon

the sides of an insect is therefore a sufficient indication of membership of the genus *Macraspis*.

The genus *Antichira*, as restricted by Dr. Ohaus to the species without this apparatus, contains only a small part of the old genus. In addition to the species enumerated by Dr. Ohaus ten others in the British Museum collection belong to *Antichira*, all of the remaining forms known to me, with the exception of those already dealt with, becoming members of the genus *Macraspis*. The ten are as follows :—

A. bicolor, *Oliv.*
A. tæniata, *Perty*.
A. inaurata, *Burm.*
A. isthmica, sp. n.
A. calcarata, *Spin.*
A. fulgida, *Waterh.*
A. cuprina, *Lap.*
A. subænea, *Burm.*
A. Adamsi, *Waterh.*
A. substriata, *Waterh.*

The insect assigned in the 'Biologia Centrali-Americana' to the South-American species *A. chlorophana*, Burm. (*A. corrusca*, Serv., according to Dr. Ohaus), is an undescribed form differing from it in many sufficiently evident characters. It is larger and relatively broader, with a considerably larger scutellum, scarcely less than a third the length of the elytra at the suture, while that of Burmeister's insect is one-fourth only. The striation of the elytra in the latter is also much more distinct, and the form of the mesosternal process is conspicuously different, having a truncate club at its extremity in *A. chlorophana*, while in the Panama species it is of almost equal thickness throughout and rounded at the end. The diagnosis of the new species is as follows :—

Antichira isthmica, sp. n.

Ovata, subdepressa, roseo-lutea vel viridis, corpore subtus, pygidio pedibusque fusco-viridis plus minusve roseis ; clypeo producto, crebre punctato, vertice, prothorace scutelloque subtilissime punctatis, hoc apice infuscato ; elytris irregulariter punctatis, vix striatis ; pygidio grosse strigato ; processu mesosternali elongato, curvato, nec clavato.

Long. 27 mm.

Hab. Nicaragua, Chontales ; Panama, Chiriqui.

Another Central-American species, *Macraspis catomelæna*, Dohrn, is a variety of *M. trifida*, Burm., an insect which, like the allied forms *M. cincta* and *M. variabilis*, is exceedingly variable in coloration.

Macraspis aterrima, Waterh., figures in Nonfried's Supplementary Catalogue of Rutelidæ, in the Berl. Ent. Zeit. 1892,

only as *aterrima*, Dej., which occurs as a synonym of *lævicollis*, Waterh., from which it differs as far as possible. Very near *M. aterrima* is *M. melanaria*, Blanch., which was included by Mr. Waterhouse, by mistake, in the synonymy of *M. tetradactyla*, L. It may be distinguished from *M. aterrima* by the sculpture of the pygidium, that of the latter having a smooth space upon the basal part, while in *M. melanaria* it is wholly striated.

It may be mentioned here that, among many other omissions and inaccuracies in the Catalogue referred to above, a number of species of this and allied genera described by Kirsch in the Berl. Ent. Zeit., 1870, have been entirely overlooked.

The following new species of the genus *Cnemida* is remarkable for its bright colouring in a genus of peculiarly sombre-coloured Rutelidæ, and it is also worthy of notice for the sexual difference in the colouring of the pygidium. It is the *Leucothyreus Leprieuri*, Buquet, of Dejean's collection, according to Reiche, but has of course no relationship with that genus. Specimens in the British Museum were collected on the Amazons by H. W. Bates.

Cnemida Leprieuri, sp. n.

Læte fulva, elytris exceptis metallico-nitens, capitis vertice, scutello prothoraceque viridibus, hujus lateribus fulvis, elytri margine laterali post medium nigro-maculato, macula ad apicem linea tenui producta; capite irregulariter crebre punctato, prothorace crebre punctato, disco sparsius, lateribus a medio antice valde convergentibus, postice leviter divergentibus; elytris regulariter punctato-striatis; humeris fossulatis; pygidio undique striolato. Long. 13 mm.

♂. Tarsorum anticorum ungue interno dilatato et diviso; pygidio viridi.

♀. Unguibus omnibus simplicibus; pygidio viridi, fulvo-marginato.

Hab. Amazons, Ega, Pará.

Although generically the same as the described species of *Cnemida*, this will form a distinct section characterized by the evenly sculptured upper surface and the prothorax not narrowed behind.

The generic arrangement of the insects constituting Lacordaire's group of the Brachysternides requires amendment. For the insects at present known as *Aulacopalpus* a new genus must be made, the type of that genus, *Aulacopalpus viridis*, Guérin, being very different in structure. It is a glabrous insect, clothed beneath with long hairs and not

decumbent scales, and having the last joint of the maxillary palpus greatly enlarged and channelled along almost its entire length. Congeneric with this is a species doubtfully referred to *Tribostethes* by Philippi as *T. virens*, and said to be allied to "*Amblyterus variabilis*"; but what insect he spoke of by this name I am unable to discover. The common Chilian *Aulacopalpus viridis* of Burmeister is an insect of entirely different appearance, which may be distinguished by the name of *Hylamorpha*. Its chief generic characteristics are the dense clothing of scaly hairs upon the abdomen, the undivided claws, and the transverse clypeus. It has been characterized in detail by Burmeister. *H. viridis*, Burm., is the only species of this genus at present described, for *Aulacopalpus angustus*, Philippi, must be transferred to the genus *Brachysternus*, with which it agrees in all essential points, having only a superficial likeness to *H. elegans*.

The following are two new species of *Hylamorpha*:—

Hylamorpha rufimana, sp. n.

H. eleganti affinis, supra prasina, tota punctato-rugosa; abdomine nigro, albido-setoso, ore, antennis, pectore, pedibus anticis, aliorum tarsisque rufo-castaneis; tibiis posticis viridi-aureis; clypeo subquadrato, brunneo-marginato, margine parum reflexo; prothorace valde transverso, medio profunde sulcato.

Long. 15 mm.

Hab. Chili.

This insect is rather less elongated than *H. elegans*, Burm., the margin of the clypeus is less reflexed, and the anterior legs are without a trace of green.

Hylamorpha cylindrica, sp. n.

Olivacea; capite, prothorace, tibiisque anticis prasinis, prothoracis lateribus aureis, corpore subtus tarsisque castaneis, pectore fulvo-piloso; abdomine pilis albo-luteis obtecto; capite magno, clypei margine brunneo, reflexo; prothorace cum capite punctato-rugoso, lateribus regulariter arcuatis haud angulatis, margine postico vix lobato; elytris rugose punctato-striatis, crebre piliferis.

Long. 18 mm.

Hab. Chili.

H. cylindrica is rather less flattened above than the other two species. The elytra are not truncated behind and are somewhat densely clothed with setæ. The rounded sides of the thorax and the large head are also distinctive.

Solier's genus *Tribostethes* must also be renamed, being quite distinct from the true *Tribostethes* of Curtis. I propose to call this insect (*T. ciliatus*, Sol.) *Pseudadelphus*. Owing to the very inaccurate drawing of the figures in the 'Historia de Chile' the identity of this species has been in doubt, but if these are neglected the description is sufficient for its recognition, although, following the drawing, the claws are wrongly described as entire. Besides its divided claws it differs from *Tribostethes castaneus*, Curtis, by the thickly hairy anterior half of the pronotum, the antennæ of moderate length in the male, and the absence of a median process to the labium, in which it more closely approaches *Callichloris*.

To the latter genus belongs *Platycœlia nigricauda*, Bates, as the extremely short mesosternal process and the form of the mouth-parts indicate. Bates's genus *Leucopelœa* must also be placed in immediate proximity to *Callichloris*, if, indeed, it can be regarded as distinct. The author was apparently not acquainted with the latter genus.

I may remark here that Lacordaire appears to have been mistaken in his mention of the prosternum of *Callichloris*, "munie d'une saillie post coxale courte et comprimée." There is really nothing more than the usual slight tumidity behind the front coxæ.

In the genus *Platycœlia*, *flavostriata* of Burmeister must be distinguished from the true *flavostriata*, Latr., of which a type specimen received by Dejean from Latreille is in the British Museum. There is good reason to believe that Latreille's description was drawn up from this specimen alone. It belongs to Burmeister's first section of the genus, in which there are no raised costæ upon the elytra. The false *P. flavostriata* may be called *P. Burmeisteri*. The identity of the two species was queried by Blanchard in the 'Catalogue de la Collection Entomologique.'

The position of Solier's *Catoclastus Chevrolati* has long been a matter of doubt. Lacordaire was unable to assign a place to it on account of its so-called 9-jointed antennæ, while Philippi seems to have believed it to belong to the genus *Brachysternus*. A specimen of the insect is in the British Museum, labelled by Blanchard, with whom its name originated, and I am able to state that it should be placed in the genus *Pelidnota*, in the neighbourhood of *P. ignita*, Oliv. The antennæ are 10-jointed, but the seventh joint, as in the rest of the genus, is very short and in this species rather less apparent than usual.

Pelidnota prasina, Burm., must be regarded as a variety of

P. æruginosa, L. It is a form occurring in Colombia and Venezuela, and separated from the Brazilian *P. æruginosa* on a count of the absence of metallic lustre. This may be traced, however, in some specimens which cannot be distinguished from imperfectly developed Brazilian individuals, so that in the absence of other differentiating characters it cannot be regarded as specifically distinct.

One further correction of the 'Biologia Centrali-Americana' must be made. The Central-American insect there identified with the Colombian *Geniates spinolæ*, Burm., is a distinct species, as I have ascertained by comparison of original specimens of both in M. Oberthür's collection. A series of the Panama form has been received from Mr. Dolby Tylor, and it will avoid confusion to describe it here :—

Geniates panamensis, sp. n.

Breviter cylindricus, pallide testaceus, capite omnino pallido, prothoracis duabus maculis triangularibus et duobus punctis inconspicuis lateralibus vage fuscis, elytrorum marginibus interioribus fere usque ad humeros infuscatis ; capite rugose punctato, clypeo subtruncato, lateribus parallelis ; prothorace subtiliter punctato, angulis anticis acutis, posticis regulariter curvatis ; scutello brevi, pentagonali ; elytris pone humeros latitudine ad thoracis medii latitudinem æqualibus, undique subtilissime punctatis, et grossius lineato-punctatis, haud striatis ; pygidio leviter punctato.

Long. 11 mm.

Hab. Panama, La Chorrera.

XLI.—*Descriptions of Two new Species of Shells from Japan.* By G. B. Sowerby, F.L.S.

Buccinum striatissimum, sp. n.

Testa ovato-conica, crassa, albida, epidermide pallida tenuissime induta, spiraliter striata ; spira elongato-conica, acutiuscula ; anfractus circiter 8–9, valide convexi, rotundati, sutura impressa sejuncti, spiraliter densissime inciso-striati, striis eximie undulatis ; anfractus ultimus supra tumidus, infra leviter contractus ; apertura subovalis, alba, canali lato, brevissimo ; columella antice rectiuscula, postice obliqua, in medio arcuata, callo crasso induta ; labrum crassum, leviter reflexum, postice lævissime sinuatum. Operculum typicum.

Long. 115, diam. 65 ; apertura longa 40, lata 26 mm.

Hab. Kumihama, Tango, Japan.